

The normal distribution coefficient of sulphur between metal and slag is 8, but this may fall to less than 4 if conditions are unfavourable. The author derives a number of equilibrium and solubility constants, which throw some light on the mechanism of desulphurisation.

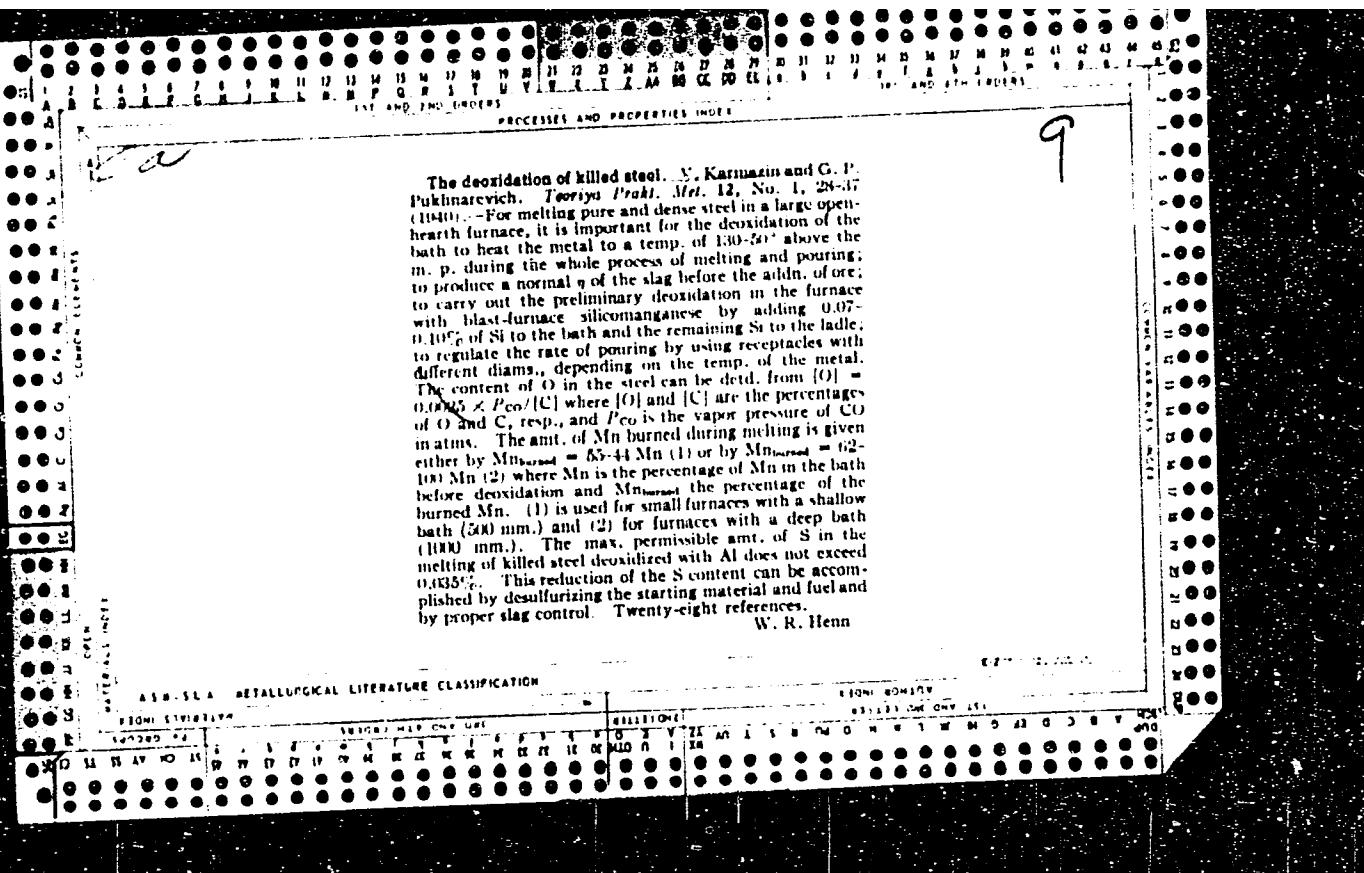
The slag and temperature conditions in open-hearth furnaces. V. Karmazin. *Izv. Akad. Nauk SSSR, Met. i. No. 101-11, 43-50 (1939).*—During the open-hearth melting process the following 2 conditions must be observed: (1) The temp. of the metal during melting down, boiling and pouring must exceed its solidification temp. by 1.6-5.0°. (2) The slag must have the optimum compn. and fluidity during melting down and boiling; the last addition to the slag must be made before the beginning of melting down. The amt. of flux added before melting down can be calculated from CaCO_3 (in percent) = 5.0 (percent of Si in the melt) + 0.30 (percent of Fe over 1.50%). The desired 2 of the slag before fluoridation (20-40 mm. by the Herzy viscometer) corresponds to approx. the following compn.: Fe 7, CaO 40, Si 18 and MgO 8-10%. Eighteen refer- ences. W. R. Henn.

9

AMERICAN METALLURGICAL LITERATURE CLASSIFICATION

APPROVED FOR RELEASE: 06/13/2000

CIA-RDP86-00513R000720810006-7"



A reply to the paper of V. P. Mlachchenko "Desulfurization of pig iron in ladles." V. KATKOVSKII, *Lehrbuch der Prakt. Met.*, 12, No. 9, 40 (1940); cf. preceding article and *C. A.*, 35, 4322. MnS and FeS are completely insoluble in the liquid state and produce no chem. compds. On solidifying they form only a solid soln. Therefore, the equation for the formation of intermediate sulfides as proposed by M. is erroneous. Mn is an active desulfurizer. Its effect is facilitated by C and Si. The amt. of MnS formed (which contains some dissolved FeS) increases with the increase of Mn in the ladle. Owing to the decrease of the temp. in the ladle this process proceeds fast in the direction of the formation of MnS from FeS, increasing the desulfurizing effect in the ladle. In a very dense pig Fe and with an insufficient time of exposure ($Mn \geq 2.5\%$ and a low temp.) the equil. is not reached, owing to the difficulty for MnS to rise to the surface. Since the slag which covers the pig Fe contains some CaO , Mn and FeO there must be formed corresponding ansts. of MnS , FeS and FeS_2 . The lower the temp. and the greater the concn. of the Fe oxides in the slag the more S in the slag is present in the form of FeS and the less in the form of MnS and CaS .

ASA-11A METALLURGICAL LITERATURE CLASSIFICATION

APPROVED FOR RELEASE: 06/13/2000

CIA-RDP86-00513R000720810006-7"

KAMAZIN, V.D.

"Daily internal business accounting in the enterprises of the
Petroleum Production Administration of the Doina Petroleum
Trust. Nefteprom. delo no. 3:28-30 '64. (MIRA 17:5)

1. Neftepromyslovoye upravleniye "Dolinaneft".

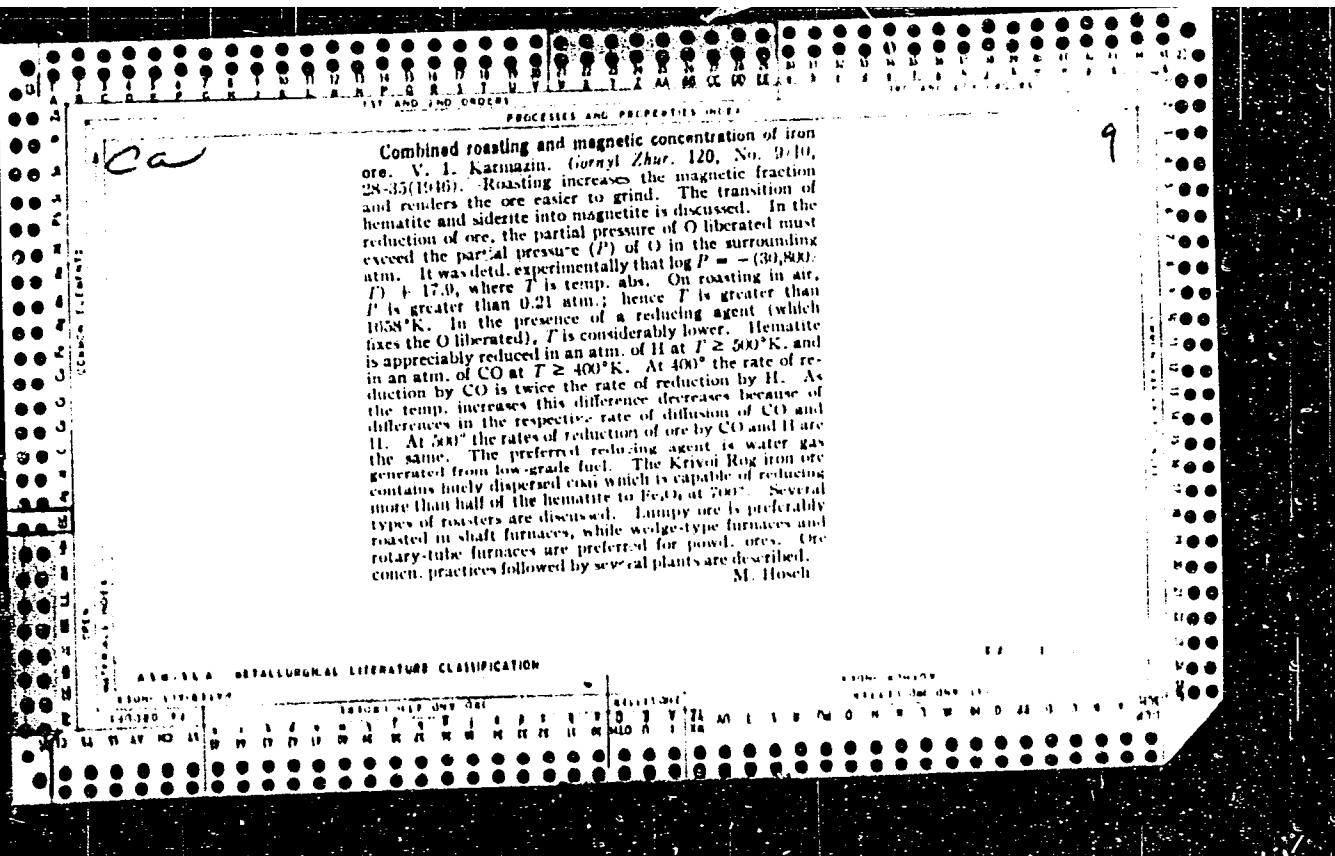
5

METHOD OF MEASUREMENT OF MAGNETIC PROPERTIES OF ORES. V. I. KARMAZIN AND B. I. HAUGOLNIKOV. (ZAVODSKAYA LABORATORIA, 1946, vol. 12, No. 7-8, pp. 712-717; ABSTRACT) Centre National de la Recherche Scientifique, Bulletin Analytique, 1948, vol. 9 no. 8, p. 1614). The balance used to carry out the measurements is described and the influence of the composition of the ores on their magnetic properties is examined.

AM-51A METALLURGICAL LITERATURE CLASSIFICATION
SEARCH SYSTEM

APPROVED FOR RELEASE: 06/13/2000

CIA-RDP86-00513R000720810006-7"



KARMAZIN, V. I.

PA 4/49TLL

USSR/Chemistry-Polarography, In Industrial Laboratories

Feb 48

Chemistry-Polarography, Electrodes in

"A Rigid Immersed Electrode and Its Use in Polarography," V. S. Kyrilkov, V. I. Karmazin, Krivoy Rog Mining and Ore Inst., 6 pp

"Zavod Lab" Vol XIV, No 2 p. 135-42

Describes new-type electrode, consisting of platinum needle immersed in electrolyte. Intermittent contact is assured by a stream of gas bubbles. Investigates effects of temperature, bubble speed, and depth of immersion of anode and cathode on polarograms. Constructs calibration curves for lead, copper, and cadmium. Relation between wave height and concentration is straight line. Further experimental investigation must precede introduction of the electrode into laboratory practice.

4/49TLL

PA 4/49T12

USSR/Chemistry-Analysis, Fusions
Chemistry-Polarography, Electrodes in

Feb 48

"The Use of Rigid Immersed Electrode in the
Analysis of Fused Substances," Yu. S. Lyalikov, V. I.
Karmazin, Krivoy Rog Mining and Ore Inst, 5 pp

"Zavod Lab" Vol XIV, No 2 J. 144-8

Shows that polarography can be applied to analysis
of fused substances and investigates kinetics of
dissociation of certain salts. Reduction of waves
was observed when ions, reacting with polarographed
ion to form insoluble, lightly dispersed precipi-
tates, were added to the molten mixture $\text{Ba}_3(\text{PO}_4)_2$

4/49T12

USSR/Chemistry-Analysis, Fusions (Contd)

Feb 48

into KNO_3 . Certain salts and oxides were only
slightly soluble in basic solution, and their ions
were not present even when solution was saturated
(TiCl_3 , CuO , NiO , in KNO_3). Ion dissociation may
not occur when salts are readily soluble in basic
solution (CuSO_4 and NiSO_4 in $\text{K}_2\text{S}_2\text{O}_7$).

4/49T12

KARMAZIN, V. I.

PA 40/49T75

USSR/Mining Methods
Ore Dressing

Jan 49

"Review of V. G. Derkach and I. S. Dateyuk's Book,
"Electromagnetic Concentration Processes," "Decent
V. I. Karmazin, Ye. F. Moskal'kov, 1 p

"Gor Zhur" No 1

Favorable review of subject book, which is a comprehensive work on magnetic separation methods and equipment.

40/49T75

KARMAZIN, V.I., kandidat tekhnicheskikh nauk

Kinetics of desulfurization in the production of steel. Trudy Inst.
chern. met. AN URSR 3:25-49 '49.
(MLRA 8:7)
(Steel—Metallurgy)

KARMAZIN, V. I.

20724. Karmazin, V.I. Tekhnologicheskaya klassifikatsiya "samtsechnykh" pul i zhelezistykh pered Krivtassa. Gornyy zhurnal, 1949, No. 7, s. 29-35

SO: LETOPIS ZHURNAL STATEY - Vol. 28, Moskva, 1949

CA

9

Technological classification of run of mine ores and ferruginous deposits of Krivbas. V. I. Karmazin. *Geolog. Zhur.* 123, No. 7, 29-35 (1979). The ores and the ferruginous deposits of Krivoy Rog basin are plotted on a tri-coordinate diagram. The apex of the triangle is rich ore, ore in which $Fe \geq 40\%$, and the base is formed by rich gang., $Fe \geq 30\%$, and poor gang., $Fe \leq 25\%$. The concentration characteristics of the ores are plotted on a similar diagram. This enables one to select the proper concentr. procedure for the max. utilization of the ore. M. Hoseh

CA

Relation of phosphorus to manganese minerals in ores
V. I. Karmatin, *Izv. Akad. Nauk U.S.S.R., Ser. Geol.* 1950, 138-60. The chief relation of P to "psilomelane-bog manganese" ores was shown by studies based on chem., magnetic, gravity, mineralogical, and petrographic analyses of Mn ores. In concentrates consisting of "psilomelane-bog manganese" the content of P increases as concn. of Mn rises. The inverse was found to be the case with manganese and pyrolusite. In the expts. only bi- and quadrivalent ions of Mn were detected. A classification diagram, comparing types of Mn ores with their degree of dephosphorization after concn., is provided. There are two graphs; one shows the relation between P and Mn contents and mineralogical compn. of Mn concentrate; the other shows the relation between P content per unit of Mn, magnetic behavior, and relative concn.

Choly S. Macv

CA

9

Concentration methods of Krivoi Rog ores degraded in mining. V. I. Karmazin. *Gornyi Zhur.* 125, No. 7, 32-6 (1951). In the course of mining and elevating the ore part of it becomes contaminated with gangue. The properties, compn., etc., of this ore are described. The 5-50 mm. fraction is treated in magnetic separators of high-field intensity - while the finer fractions are treated in mech. classifiers. A flowsheet of the concen. plant is given. M. Hoseh

KARLIZIN, V.I.

Krivoy Rog - Iron Ores

Stamping Krivoy Rog iron ores. Gor. zhur. No. 3, 1952.

Monthly List of Russian Accessions, Library of Congress, November 1952. UNCLASSIFIED.

KARMAZIN, V. I.

USSR/Chemistry - Iron Ore Treatment

Jan 53

"Characteristics of the Process of Reductive Magnetization of Iron Oxide Ores," V.A. Royster, V.I. Karmazin, V.A. Yuza, and A.N. Kuznetsov, Dnepropetrovsk Chem-Technological Inst im F. E. Dzerzhinskii; Krivoy Rog Sci-Research Ore Mining Inst

Zhur Fiz Khim, Vol 27, No 1, pp 125-129

Effective reductive magnetization of iron oxide ores demands the selection of conditions favorable to gradual rather than zonal reduction of the oxides in the entire mass of the lumps or the whole

268T20

layer of ore. Diffusion interferes with gradual reduction. In the reduction with H of individual pieces of quartzite, the gradual manner of the reduction is much more pronounced than in reduction with CO. H is hardly suitable for the reduction of a sufficiently long layer, because of the strong inhibiting effect of H_2O on the first stage of the reduction of Fe_2O_3 . As a result of this inhibition formation of zones in the ore must occur. Gases containing a mixture of H and CO are of considerable advantage.

268T20

KARMAZIN, V.I., dotsent, kandidat tekhnicheskikh nauk

"Magnetic separation of low magnetic ores." Gor. zhur. no. 4:60-61 Ap '55.
(Magnetic separation of ores) (Derkach, V.G.) (MLRA 8:7)

Karmazin, KI

Development of Economical Furnaces for the Magnetic Roasting Beneficiation of Ores. V. I. Karmazin. (Sud, 1955, (9), 692-699). [In Russian]. The economy of the reduction-roasting-magnetic method of beneficiating iron ores are discussed and designs of suitable shaft and kiln furnaces are specified. Among the designs illustrated are those of annular, half and rotating kiln furnaces developed by the Ore-Mining Research Institute. It is concluded that, generally, the relatively high capital costs of this process are redeemed by savings in heat-furnaces operating costs. L. [unclear]

ZHIVOV, L.G., kandidat tekhnicheskikh nauk; KARMAZIN, V.I., kandidat
tekhnicheskikh nauk; KOZLIK, V.I., inzhener

Grizzlies with mesh heated by electric current. Gor. zhur.
no. 9:46-48 S '55. (MLRA 8;8)
(Screens (Mining))

KARMAZIN, V. I.

MC ✓Closed magnetic system separators for magnetite ores and suspensions. V. I. Karmazin. Goryač. Zhurn. 1935, No. 10, 41-0. --A discussion of magnetic separators having a focused field and magnet poles arranged on both sides of the moving material. Several kinds of separators put out by NIIGRI, Institute of Mining and Ore Treatment, were tested and are described. M. Husch.

KARMAZIN, V.I., kandidat tekhnicheskikh nauk.

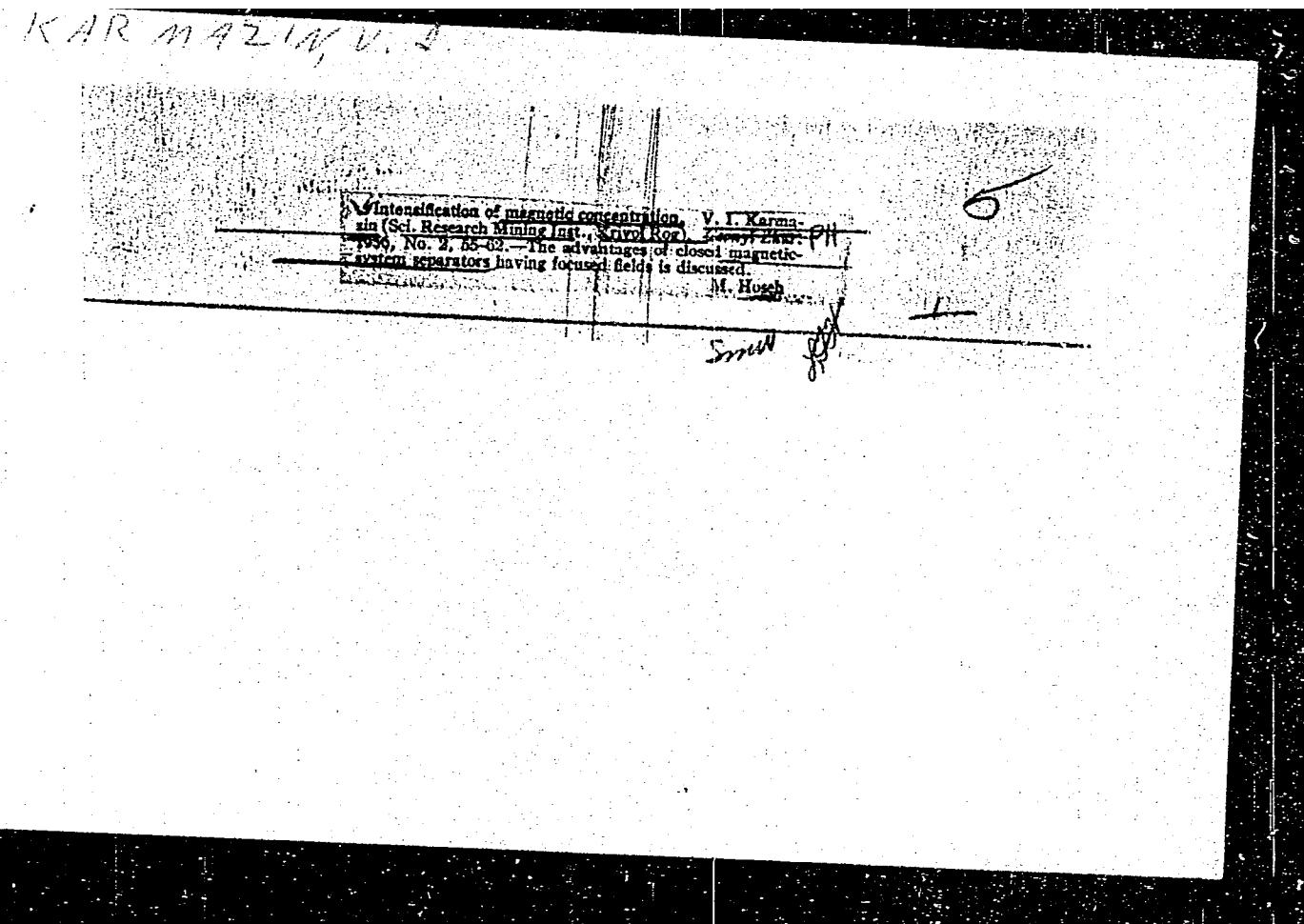
Intensification of beneficiation of magnetite quartzite. Stal' 15
no.11:969-976 N '55. (MLRA 9:1)

1.Nauchno-issledovatel'skiy gornorudnyy institut.

PLANT 310, U.S.

3-4E4C

Electromagnetic or magnetic drug separator. V. I. Kurnosov and V. V. Kurnil. U.S.S.R. 107,646. Apr. 30, 1960. The arrangement of the magnetic system in the separator is described. Cf. C.A. 50: 14405a. M.H.



KARMAZIN, V.I., kandidat tekhnicheskikh nauk; KRUTIY, V.V., tekhnik.

Industrial practice of magnetic separation of chert by permanent
magnet separation. Gor. zhur. no.6:47-51 Je '56. (MIRA 9:8)

1. Nauchno-issledovatel'skiy gornorudnyy institut.
(Magnetic separation of ores) (Chert)

KARMAZIN, V.I.

137-1958-1-50

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 1, p 9 (USSR)

AUTHOR: Karmazin, V.I.

TITLE: New Data on the Concentration of Iron Quartzites (Novyye
dannyye po chogashcheniyu zhelezistykh kvartsitov)

PERIODICAL: Sbornik trudov Nauchno-issledovatel'skogo gornorudnogo
instituta (USSR), 1957, Vol 1, pp 352-384

ABSTRACT: Production engineering and cost analyses of the efficiency of
iron quartzite concentration are adduced. The calculations show
that the concentration of magnetite quartzites pays for itself in
fuel economy and increased blast furnace output in the smelting
of pig iron from agglomerate, if it contains ≥ 60 percent Fe
(with a yield of ≈ 50 percent). Beneficiation of oxidized quartzites
can be economical only when the efficiency of ore dressing
is very high. Therefore, magnetite-quartzite and magnetite-
silicate cherts are priority raw materials for beneficiation. The
employment of continuous patterns of concentration in multiple-
drum separators permits high-quality concentrates (60-65 per-
cent iron) to be obtained, without excess size reduction in particle
size, increase in power consumption, or diminution in iron

Card 1/2

137-58-4-6362

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 4, p 4 (USSR)

AUTHOR: Karmazin, V. I.

TITLE: Separators With a Closed Magnetic System (Separatory s zam-knutoy magnitnoy sistemoy)

PERIODICAL: Sb. tr. N.-i. gornorudn. in-t, 1957, Vol 1, pp 385-419

ABSTRACT: A brief presentation is made of the principles on which intensification of the process of magnetic separation may be founded and the results of shop experiment in employing a new type of separator (S) for highly magnetic materials. A description is offered of the design of a NIGRI S with a closed system and a focused field (engineering characteristics: design principles, description of the wet drum S, a variant of the drum S for dry separation of fine-ground highly-magnetic materials, an S for dry milling of highly and medium-magnetic lump materials). Results are presented for electrical and engineering tests for the S. A description of the NIGRI-2-VK-5 S for weakly-magnetic materials is offered. A classification of magnetic S is given. Magnetic S with isodynamically focused fields and poles on both sides of the

Card 1/2

KPR MRZMA, V. I.

137-1958-3-4562

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 3, p 13 (USSR)

AUTHOR: Karmazin, V. I.

TITLE: Experimental Results of Reducing Oxidized Quartzites in the "Boiling Layer" by Means of Magnetic Roasting Utilizing Blast-Furnace Gases (Rezul'taty optyov obzhig-magnitnogo obogashcheniya okislennykh kvartsitov v "kipyashchem sloye" s primeneniyem domennogo gaza)

PERIODICAL: N.-i. gornorudn. in-t. Byul. nauchno-tekh. inform., 1957, Vol 2, pp 48-56

ABSTRACT: Presentation of preliminary data, showing the advisability of conducting planning and research work dealing with experimental industrial concentration of oxidized ores from the Krivoy Rog and Kerch deposits, in order to prepare them for a reducing and reducing-oxidizing roast. The Author cites the system of an acid plant in the USA (Negaunee) which employs a single stage reactor for magnetic roasting, and presents a diagram of a multi-stage reactor employed for reduction roasting of Fe ores in the "boiling layer", as well as the design of a furnace for reducing-oxidizing magnetic roasting equipped with a movable hearth.

A. Sh.

Card 1/1

Karmazin V.I.

137-58-3-6233

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 3, p 256 (USSR)

AUTHORS: Karmazin, V.I., Krutiy, V.V.

TITLE: Results of the Employment of a High-speed Magnetic Analyzer
With a "Boiling Layer" at the YuGOK Plant (Rezul'taty primeneniya
na YuGOK magnitnogo ekspress-analizatora s "kipyashchim
sloym")

PERIODICAL: N.-i. gornorudn. in-t. Byul. nauchno-tekhn. inform., 1957,
Vol 2, pp 56-63

ABSTRACT: On the strength of a large number of magnetic analyses (over
10,000) it has been established that, the FeO content and the
"acidity" of an ore (Fe/FeO) being equal, the concentration cri-
teria of ores fluctuate over a wide range. Chemical analysis
methods alone do not provide an accurate evaluation of the phase
composition of ores and do not permit a rational basis for the
planning of the concentration process. Magnetic analyses are
being performed on magnetic high-speed NIGRI analyzers which,
during a period of one and one-half years of operation, have proved
their reliability and efficiency. It is established, on the basis of
studies of results of magnetic analyses, that it is imperative to

Card 1/2

137-58-3-6233

Results of the Employment of a High-speed Magnetic Analyzer (cont.)

design magnetic separators for refining of concentrates and tailings and include them into the existing equipment system of the YuGOK plant. It is recommended that concentrating plants include in their reports the average shift and monthly data on the magnetic analysis of raw material, concentrates, and tailings, as well as the results of the quantitative analysis of individual samples thereof.

Z.G.

Card 2/2

Karmazin, V.I.

137-1958-3-4513

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 3, p 5 (USSR)

AUTHOR: Karmazin, V. I.

TITLE: A New System for the Classification of Magnetic Separators
(Novaya klassifikatsiya apparatov dlya razdeleniya materialov
po magnitnym svoystvam)

PERIODICAL: N.-i. gornorudn. in-t. Byul. nauchno-tekhn. inform., 1957,
Nr 2, pp 63-71

ABSTRACT: In the Author's opinion, the nomenclature of separating apparatus should be based on the following prominent characteristics:
a) designation of the operating component of a system which transports the magnetic particles by its initial, e.g., L (Lenta=belt) etc.; b) description of the arrangement (one-sided or two-sided) of magnetic poles: no symbol is employed for a one-sided arrangement, whereas, for a two-sided arrangement, the letter F is used if the field is focused, and the letter I, if the field is isodynamic; c) description of the magnetic system: P for permanent magnets, E for electromagnets; d) sensitivity and manner of separation; these are specified by a number representing the rate of separation of the magnetic fraction within the operating

Card 1/2

137-1958-3-4513

A New System for the Classification of Magnetic Separators

space of the separator, and by a letter M for wet separation, and B for dry separation; no indices are employed at all if the process involved is one of dry separation in a field of identical polarity and the material is charged in at the top; the letter M alone is employed in the case of wet reduction in a field of identical polarity, with the feed also at the top; e) magnetic properties of the material subjected to separation; these are denoted by a number equivalent to the exponent of the value of the specific magnetic susceptibility and by a letter specifying the particle size (I for sludge particles, T for fine particles, etc.); f) description of the size and the productivity of the apparatus, expressed by the width of the feed in m and by the floor area of the installation in m^2 ; these values appear in the form of a plain fraction and represent the effective utilization of the working area of the system. Thus, for example, the 128-SE separator may be designated as 1E1M - 2T 1/12.

A. Sh.

Card 2/2

KARMAZIN, V.I.; KHERSONETS, L.N.

Preparation of magnetite quartzites of the southern Krivoy Rog
Mining and Ore Dressing Combine. Gor. zhur. no.7:41-46 Jl '57.
(MLRA 10:8)

1. Mekhanobrchermet.
(Krivoy Rog--Ore dressing) (Iron ores)

KARMAZIN VI

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Richard Schermer
Cork Hill Inn

APPROVED FOR RELEASE: 06/13/2000

CIA-RDP86-00513R000720810006-7"

KARMAZIN, V.I.

127-11-12/12

AUTHORS: Karmazin, V.I., Candidate of Technical Sciences and Ostapenko, P.Ye., Technician

TITLE: Experience in Obtaining High-Quality Magnetite Concentrates (Opyt polucheniya vysokosortnykh magnetitovykh kontsentratov)

PERIODICAL: Gornyy Zhurnal, 1957, # 11, pp 78-80 (USSR)

ABSTRACT: The "Mekhanobrchermet" Institute has assembled an experimental installation in a laboratory for a two-stage concentration of magnetite quartzites. The installation operates continuously and represents a miniature concentration plant with a capacity of 100 kg of the initial ore per hour. The obtained concentrate contained 68.5% of iron, and the extraction amounted to 81.2%. The iron content in the tails was 10.9%. Further experiments were carried out under industrial conditions in the concentration plant of the "KMaruda" (Kursk Magnetic Anomaly Ore) combine in 1956. After a four-fold scouring the concentrate was obtained which contained 66.2% of iron without an increase of iron content in the tails. The article contains 2 diagrams and 2 tables. One Slavic reference is cited.

AVAILABLE: Library of Congress
Card 1/1

Karmazin, V. I.

130-12-3/24

AUTHOR: Karmazin, V.I., Candidate of Technical Sciences.TITLE: Fluidized-bed Magnetizing Roasting of Lead Hematite Ores
(Magnetiziruyushchiy obzhig bednykh gematitovykh rud v
kipyashchem sloye)

PERIODICAL: Metallurg, 1957, No.12, pp. 5 - 8 (USSR).

ABSTRACT: The author mentions that over half the Krivoi-Rog reserves of iron units is in the form of hematite-quartzite and describes attempts to concentrate such materials, with special reference to magnetic roasting. Laboratory investigations on magnetic roasting in fluidised beds were carried out by the Mekhanobr Institute in collaboration with the Oil Institute of the Ac.Sc. USSR (Institut nefti AN SSSR) and the Gas Utilisation Institute of the Ac.Sc. Ukrainian SSR (Institut ispol'zovaniya gaza AN USSR) were sufficiently promising for some pilot plans to be built at the YuGOK (Fig.1). The results there (Fig.3) were similar to those obtained in the USA and the efficiency of the process was limited because a single-bed roaster was used and the author gives a diagram of a multiple-bed one (Fig.4). He describes his 1947 proposal, not yet tested, for magnetising roasting on modified sinter strand where blast-furnace gas and air are passed through the (covered) bed (Fig.5). He estimates that a 50-m² strand would produce 3 to 3.5 thousand tons/day

Card 1/2

KARMAZIN, V.I.; KRUTIY, V.V.

Device for rapid analysis of dry powders for ferromagnetic impurities.
(MIRA 10:6)
Zav. lab. 23 no.3:367-368 '57.

1. Krivorozhskiy nauchno-issledovatel'skiy gornorudnyy institut.
(Powder metallurgy) (Magnetic instruments)

KARMAZIN, V. I.: Doc Teck i (diss) -- "The intensification of magnetic dressing of ferrous-metal ores". Moscow, 1958. 35 pp (Acad Sci USSR, Inst of Mining), 200 copies (KL, No 14, 1959, 119)

KARMAZIN, V.I.

Efficiency of the process of magnetic separation of quartzites.
(MIRA 12:5)
Obog.rud 3 no.5:9-14 '58.
(Magnetic separation of ores) (Quartzite)

AUTHOR: Karmazin, V.I. and Dolotova, I.A.

127-58-7-12/20

TITLE: The Floatation of Iron Ores and Tails at Krivoy Rog Concentration Plants During the Sixth Five-Year Plan (Flotatsiya zheleznykh rud i shlamov obogatitel'nykh fabrik Krivogo Roga v shestoy pyatiletke)

PERIODICAL: Gornyy zhurnal, 1958, Nr 7, pp62-67 (USSR)

ABSTRACT: Two methods are generally used for the dressing of low grade ores: floatation and magnetic roasting. Both methods are now being tested at many institutes and laboratories of the USSR. The first research was done by Professor V.I. Trushlevich (Ref. 1) and, later, by the Doctor of Technical Sciences G.I. Yudenich, Z.S. Bogdanova of the Mekhanobr Institute and the Doctor of Technical Sciences F.N. Belash of the Kol'skiy filial AN SSSR (Kola Branch of the AS USSR). Calculations made in Mekhanobr showed that the floatation method is more economical than the other. Mekhanobrchermet found that the floatation method, with the water from Krivoy Rog mines used in the concentration plants of that region, gives unsatisfactory results because of the hard composition of the water. Tests of the desliming of tails in hard water showed that only 14 to 40 % of the slime was removed whereas the same operation with

Card 1/2

127-58-7-12/2C

The Floatation of Iron Ores and Tails at Krivoy Rog Concentration Plants
During the Sixth Five-Year Plan

distilled water gives much better results. The time of floatation is 2 to 3 times longer when hard water is used. The effectiveness of concentration of tails in various waters supplemented by reagents was also studied. As a result of this study, it is proposed that the pulp of tails should be processed by water with an addition of sulfuric acid or soda, which increases the contents of iron in the concentrated mass. The problem of purifying the water of Krivoy Rog for use in floatation must be solved.

There are 3 tables and 2 graphs and 10 Soviet references.

ASSOCIATION: Mekhanobrchermet

Card 2/2 1. Iron ore-Flotation 2. Iron ore-Magnetic roosting

SOV/127-58-2-25/26

AUTHORS: Belash, F.N., Doctor of Technical Sciences, Professor; Delitsina, G.B., Karmazin, V.I. and Kharlamov, V.S., Candidates of Technical Sciences; Azzarov, A.L., Dolotova, I.A. and Rovenskiy, I.I., Engineers

TITLE: The Concentration and Agglomeration of Minerals in North-Western Regions of the USSR (Obogashcheniye i aglomeratsiya poleznykh iskopayemykh Severo-Zapadnykh rayonov SSSR). Leningrad, Mekhanobr, 1957, vol. 102, 344 pp. with illustrations. Circulation 1,700. Price 12 rubles. (Leningrad, Mekhanobr, 1957, vyp. 102.344 str.s ill. Tirazh 1,700. Tsena 12 rub.)

PERIODICAL: Gornyy zhurnal, 1958, Nr 12, pp 67 - 69 (USSR)

ABSTRACT: This is a review of the above mentioned book.

Card 1/1

LEVITSKIY, Aleksandr Matveyevich; KARMAZIN, V.I., kand.tekhn.nauk,
retsenzent; OLOFINSKIY, N.F., kand.tekhn.nauk, retsenzent, otv.
red.; YEVDOKOVA, M.L., red.izd-va; BERESLAVSKAYA, L.Sh., tekhn.
red.; SHKLYAR, S.Ya., tekhn.red.

[Electromagnetic conveyer-belt separators for the beneficiation
of strongly magnetic ores] Elektromagnitnye lentochnye separa-
tory dlja obogashchenija sil'nomagnitnykh rud. Moskva, Gos.nauchno-
tekhn.izd-vo lit-ry po gornomu delu, 1959. 198 p. (MIRA 13:1)

(Magnetic separation of ores)
(Separators (Machines)--Electric driving)

18.3200

77421

SOV/130-60-1-4/22

AUTHORS: Karmazin, V. I., Gubin, G. V., Tsybenko, A. V.,
Kucher, A. M.

TITLE: Blast Furnace Production. New Technology of Kerch'
Ore Preparation for Smelting

PERIODICAL: Metallurg, 1960, Nr 1, pp 7-10 (USSR)

ABSTRACT: The authors emphasize the need for drastically increasing
the use of low-cost Kerch' ore (composition: 32-49% Fe,
0.35-3.5% Mn, 0.1% As, and 25-30% limonite). Previous
concentration processes have not proved rational. The
Scientific Research Institute for Mechanical Concentration
of Minerals of Ferrous Metallurgy (Mekhanobrchermet)
has developed a process which involves roasting by
natural gas. Contrary to earlier methods, the gangue
(25-30% Fe) is refired at 1,100-1,200° C to dissociate
iron aluminosilicates and separate metallic iron.
Magnetic roasting at 700-800° C and subsequent magnetic
separation failed to lower the Fe content in the gangue.

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Blast Furnace Production. New Technology
of Kerch' Ore Preparation for Smelting

77421
SOV/130-60-1-4/22

However, for lean ores magnetic separation is more effective, increasing Fe content in the concentrate by 6-8%. The removal of As was tested, and results showed that gaseous reducing agent in a "boiling" layer of basic ore is more effective than a solid reducing agent in a "nonboiling" layer. In another test, 78% As was removed by blowing steam through heated ore (42.7% Fe, 0.13% As) at 1,000° C. Methods of direct ore reduction were tested in a laboratory rotary furnace comprising a metal housing with a 200-mm-diam stainless steel tube sealed at one end by welding. While heating the working area, the combustion products did not penetrate into the reduction zone, allowing the maintenance of a high carbon monoxide content (to 80%). The 5-kg charge contained ore, dolomite, and coke breeze. Reduction occurred at 1,150° C. After cooling, the reduced ore was crushed and subjected to centrifugal electromagnetic separation. A concentrate with 90% Fe and gangue with 5% Fe was produced. The authors

Card 2/3

KARMAZIN, V. I.; KRUTIY, V.V.

Roller-type separator with a strong magnetic field. Biul.
tekhn.-ekon.inform. no.2:6-8 '60. (MIRA 13:6)
(Magnetic separation of ores)

S/131/60/000/006/001/011

AUTHOR: Karmazin, V. I., Doctor of Technical Sciences

TITLE: How Metallurgical Processes Will Develop

PERIODICAL: Metallurg, 1960, No. 6, pp. 2-3

TEXT: Information is given on new processes in metallurgy, developing on the basis of high-quality raw material produced by the latest concentration techniques. One of these processes is the modified-blast-furnace or direct process of iron production where natural gas and cheap low-grade coal will replace the expensive coke. This method will simplify the steelmaking technology and produce steel with higher mechanical properties than conventional steel grades. "Primary" metal will be a most valuable product for high-quality steel melting. Sponge iron containing less than 0.5% dead rock will be used for metal ceramics. Studies on the direct production of iron are, however, still at the stage of laboratory and semi-industrial investigations. The Laboratory of annealing and direct iron production at the "Mekhanobrchermet" Institute, headed by G. V. Gubin, Candidate of Technical Sciences, is occupied with the design of furnaces with a fluidized bed for direct ore reduction. Methods are studied of using natural gas for the heating and reduction of ores in the

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How Metallurgical Processes Will Develop

6/130/60/000/006/001/011

furnaces, in magnetizing calcination and direct iron production; mechanisms and kinetics of ore reduction with natural gas are investigated. The Institute proceeds moreover with the research on the deep dressing of ores, to raise the quality of metallurgical raw material by concentration. This will result in a highly efficient economical effect. Calculations show that in using concentrates with 66% iron and 7% silica the prime cost of cast iron will drop by 23-25 rubles per ton, efficiency of furnaces will raise by 14% and coke consumption will be reduced by 57-58 kg/t cast iron. The Institute's work is, furthermore, directed to the following subjects: development of the technology of dressing magnetite and acidified quartzites for mining concentration combines; designing of highly efficient equipment; concentration of technical ores from the Krivoy Rog basin, development of calcinating-magnetic and flotation concentration of acidified iron ores; designing of equipment for the concentration of magnetites and calcinated ores by the dry method in centrifugal magnetic separators. Methods for the production of fluxed rounded-up lumps are developed at the laboratory of sintering directed by I. I. Rovenskiy. The use of fluxed lumps will allow the elimination of flux from blast furnaces so that coke consumption will be still more reduced. Processes of concentrating technical ores with the use of heavy suspensions are investigated. Flotation

Card 2/3

How Metallurgical Processes Will Develop

3/150/CC/CCC/CC/CC/CC/CC

combined with hydrometallurgical reduction of manganese slime will eliminate the loss of valuable metal.

ASSOCIATION: Mekhanobrchermet

Card 3/3

~~KARMAZIN, V.I.~~, doktor tekhn.nauk; KHERSONETS, L.N., inzh.; KURTIY, V.V.,
inzh.; NIKOLAYENKO, V.P., inzh.

Industrial testing of drum separators using the overflow of classifiers.
Gor.zhur. no.6:70-73 Je '60. (MIRA 14:2)

1. Mekhanobrchermet, Krivoy Rog.
(Separators)

ZAIKIN, S.A.; KARMAZIN, V.I.; MARGULIS, V.S.; SHUPOV, L.P.

Improving crushing flowsheets in mining and ore-dressing
combines. Gor. zhur. no.10:74-76 O '61. (MIRA 15:2)

1. Mekhanobrchermet, Krivoy Rog.
(Crushing machinery)

KARMAZIN, V.I.

Quality of iron ore concentrates. Obog. rud 5 no.1:13-14 '60.
(MIRA 14:8)

1. Mekhanobrchermet.

(Ore dressing--Quality control)
(Iron ores)

KARMAZIN, V.I.; SHUPOV, L.P.; MARGULIS, V.S.

Centrifugal-impact crusher for the reduction of Krivoy Rog iron
ores. Obog.rud. 5 no.2:35-37 '60. (MIRA 14:8)

1. Mekhanobrchermet.
(Krivoy Rog Basin--Iron ores) (Crushing machinery)

SOROKIN, V.A., doktor tekhn.nauk; KARMAZIN, V.I., doktor tekhn.nauk;
KATSEN, L.G., kand.tekhn.nauk; IVANOV, A.I., inzh.; OSTAPENKO,
P.Ye., inzh.

Magnetized roasting of Krivoy Rog quartzites in a fluidized bed.
Stal' 20 no. 12:1057-1060 D '60. (MIRA 13:12)

1. Mekhanobrchermet.
(Krivoy Rog--Quartziete) (Fluidization)

GUBIK, G.V. (Krivoy Rog); KAMAZIN, V.I. (Krivoy Rog); SHKOVYRA, G.D. (Krivoy Rog)

Some features of the reduction of calcined pellets of concentrates from the Southern Mining and Dressing Combine by gaseous reducing agents. Izv. Akad. SSSR. Otd. tekhn. nauk. Met. i topl. no.1:147-148 Ja-F '61. (MIRA 14:2)
(Iron--Metallurgy)

KARMAZIN, V.I., doktor tekhn.nauk; OSTAPENKO, P.Ye., gornyy inzhener

Obtaining high-grade concentrates from low-grade iron ores. Gor.
zhur. no.5:62-67 My '61. (MIRA 14:6)

1. Mekhanobrchermet, Krivoy Rog.
(Ore dressing) (Iron ores)

KARMAZIN, V.I., doktor tekhn.nauk; KHERSONETS, L.N., inzh.; KRUTIY, V.V.,
inzh.; NIKOLAYENKO, V.P.; PILINSKIY, G.I., inzh.

Industrial testing of magnetic separators with counterflow and
semicounterflow tanks. Gor. zhur. no.11:63-65 N '61.

(MIRA 15:2)

1. Mekhanobrchermet, Krivoy Rog.
(Separators (Machines))

KARMAZIN, V.I.; KRUTIY, V.V.; NIKOLAYENKO, V.P.

Industrial practice in wet electromagnetic separation of
ilmenite sands in 2VK-5 separators. TSvet.met. 34 no.10:21-24
0 '61. (MIRA 14:10)

1. Mekhanoibrchermet.
(Ilmenite) (Magnetic separation of ores)

KARMAZIN, Vitaliy Ivanovich, doktor tekhn. nauk, prof. Prinimali
uchastiye: KRUTIY, V.V.; SANZHAROVSKIY, P.A.; GUBIN, G.V.;
ZUBAREV, S.N., otv. red.; ARZAMASOV, N.A., red.izd-va;
BOLDYREV, Z.A., tekhn. red.

[Modern methods of magnetic separation of ferrous metal ores]
Sovremennye metody magnitnogo obogashcheniya i chernykh
metallov. Moskva, Gos. nauchno-tekhn. izd-vo lit-ry po gor-
nomu delu, 1962. 658 p. (MIRA 15:3)
(Magnetic separation of ores) Iron ores)

PEVNIKOVA, L.A.; GUBIN, G.V.; POGORELOV, V.P.; KARMAZIN, V.I.

Calcining limestone in a "boiling" layer multiple-zone reaction
vessel. Stroi. mat. 8 no.5:3-5 My '62. (MIRA 15:7)
(Limestone)

ZAIKIN, S.A.; KARMAZIN, V.I.; SHUPOV, L.P.

Use of ball-free mills for the comminution of iron quartzites.
Obor. rud no. 6:39-41 '61. (MIRA 15:3)

1. Mekhanobrchermet.

(Crushing machinery) (Iron ores)

KARMAZIN, V.I., doktor tekhn.nauk; KABISHER, S.G., inzh.; KHVATOV, Yu.A.,
Inzh.; KARMAZIN, V.V., inzh.; BURAYEV, B.K., inzh.

Industrial production of final iron ore concentrates. Met. i
gornorud. prom. no.3:58-62 My-Je '62. (MIRA 15:9)
(Ore dressing)

KARMAZIN, V.I.; KOSOV, G.M.; SHINKORENKO, S.F.; GRAZHDANTSEV, I.I.; BROSHEVALOV,
A.F.

An experimental unit for dressing manganese ores in heavy suspension
in a hydrocyclone. Gor. zhur. no.3:74-77 Mr '62. (MIRA 15:7)

1. Institut Mekhanobrchermet (for Karmazin, Kosov, Shinkorenko).
2. Trest Nikopol'-Marganets (for Grazhdantsev, Broshevalov).
(Manganese ores) (Ore dressing)

KABISHCHER, S.G.; KARMAZIN, V.I.; KHVATOV, Yu.A.; BURAYEV, B.K.

Obtaining high-grade flotation concentrates at the New Krivoy Rog
Mining and Ore Dressing Combine. Gor.zhur. no.8:58-62 Ag '62.
(MIRA 15:8)

1. Mekhanobrchermet (for Kabishcher). 2. Dnepropetrovskiy
gornyy institut (for Karmazin). 3. Novo-Krivorozhskiy gorno-
obogatitel'nyy kombinat (for Khvatov, Burayev).
(Krivoy Rog Basin--Flotation)

VINOGRADOV, V.S., inzh.; AL'TSHULER, M.A., kand. tekhn. nauk; POLYAKOV, V.G., inzh.; KIROCHKIN, A.N., inzh.; KAMAZIN, V.I., doktor tekhn. nauk; ZAIKIN, S.A., inzh.; OSTROVSKIY, G.P., inzh.[deceased]; NAUMENKO, P.I., inzh.; BOBRUSHKIN, L.G., inzh.; RUSTAMOV, I.I., inzh.; SHIFRIN, I.I., inzh.; GOLOVANOV, G.A., inzh.; KRASOVSKIY, L.A., inzh.; TSIMBALENKO, L.N., inzh.; RAVIKOVICH, I.M., inzh.; BAZILEVICH, S.V., kand. tekhn.nauk; ZORIN, I.P., inzh.; ZUBAREV, S.N., inzh.; TIKHOVIDOV, A.F., inzh.; SHITOV, I.S., inzh.; GAMAYUROV, A.I., inzh.; KUSEMBAYEV, Kh.N., inzh.; DEKHTYAREV, S.I., inzh.; VORONOV, I.S., inzh.; BURMIN, G.M., inzh.; BARYSHEV, V.M., inzh.; GOLOVIN, Yu.P., inzh.; MARCHENKO, K.F., inzh.; RYCHKOV, L.F., inzh.; NESTERENKO, A.M., inzh.; KABANOV, V.F., inzh.; PATRIKEYEV, N.N., inzh.[deceased]; ROSSMIT, A.F., inzh.; SOSFDOV, O.O., inzh.; POKROVSKIY, M.A., inzh., retsenzenter; POLOTSK, S.M., red.; GOL'DIN, Ya.A., glav. red.; GOLUBYATNIKOVA, G.S., red. izd-va; BOLDYREVA, Z.A., tekhn. red.

[Iron mining and ore dressing industry] Zhelezorudnaia promyshlennost'. Moskva, Gosgortekhizdat, 1962. 439 p.

1. Moscow. TSentral'nyy institut informatsii chernoy metallurgii.
(Iron mines and mining) (Ore dressing) (MIKA 15:12)

BUSHUYEV, V.P.; GUBIN, G.V.; GONCHARENKO, Yu.I.; KARMAZIN, V.I.;
MARGULIS, V.S.; MITROV, V.A.; NIKOLAYENKO, N.O.; BOBRUSHKIN, L.G.;
BUROV, A.I.; RYBAKOV, V.N.; SOSHIN, A.F.; TATSIYENKO, P.A.;
TOVSTANOVSKIY, O.D.; YUROV, P.P.; Prinimali uchastiye:
NIFAGINA, A.A.; CHERNYY, I.I.; GERSHOYG, Yu.G.; KOSTIKOV, A.G.;
DOLGIKH, M.A.; MOWSKOVICH, S.A.; STUPIN, D.D.; NEVOYSA, G.G.

Magnetization roasting of Kerch ores in the experimental
factory of Kamysh-Burun Combine. Gor. zhur. no.12:30-37
D '62.

(MIRA 15:11)

1. Institut Mekhanobrchermet, Krivoy Rog (for Bushuyev,
Gubin, Goncharenko, Karmazin, Margulis, Mitrov, Nikolayenko,
Nifagina, Chernyy, Gershoyg, Kostikov). 2. Kamyshburunskiy
zhelezorudnyy kombinat, Kerch' (for Bobrushkin, Burov,
Rybakov, Soshin, Tatsiyenko, Tovstanovskiy, Yurov, Dolgikh,
M.A.; Movskovich, S.A.; Stupin, D.D.; Nevoysa).
(Kerch Peninsula—Ore dressing)
(Iron ores)

KARMAZIN, V.I., doktor tekhn.nauk, prof.

Ore dressing. Nauka i zhyttia 12 no.10:22-23 0 '62.

(Ukraine--Ore dressing)

(MIRA 16:1)

KARMAZIN, V.I., doktor tekhn.nauk; KOSTENETSKIY, O.N., inzh.

Intensifying the oxygen-converter steelmaking process with the use of
ultra-pure iron ore concentrates. Mat. i gornorud. prom. no.3:21-25
My-Je '63.

(MIRA 17:1)

1. Dnepropetrovskiy gornyj institut (for Karmazin). 2. Dnepropetrovskiy
metallurgicheskiy institut (for Kostenetskiy).

KARMAZIN, V.I., prof., doktor tekhn.nauk; SHUPOV, L.P.

Some problems in dewatering fine iron concentrates. Gor. zhur.
no.9:56-59 S '63. (MIRA 16:10)

1. Dnepropetrovskiy gornyy institut (for Karmazin).
2. Mekhanobrchermet, Krivoy Rog (for Shupov).

KARMAZIN, V.I., prof., doktor tekhn. nauk; DENISENKO, A.I., gornyy inzh.

Autogenous grinding of Krivoy Rog magnetite-hornfels, Gor.
zhur. no.10:53-56 0 '63.
(MIRA 16:11)

1. Dnepropetrovskiy gornyy institut.

KARMAZIN, V.I.; GUBIN, G.V.; KUCHER, A.M.

Testing four-zone furnaces with a fluidized bed for the magnetization
roasting of iron ores. Stal' 23 no.6:494-496 Je '63.

1. Mekhanobrchermet.

(MIRA 16:10)

KARMAZIN, V.I.; BEBESH, A.A.; POPKOV, Ye.A.

Wet magnetic separation of finely granular, weakly magnetic minerals.
Tsvet. met. 36 no.12:74-75 D '63.
(MIRA 17:2)

ARSENT'YEV, Aleksandr Ivanovich; VINOGRADOV, Vladimir Samoylovich;
DZYUBENKO, Ikhail Grigor'yevich; YESHCHEKO, Aleksey
Andreyevich; KALYAKIN, Viktor Vasil'yevich; KARMAZIN,
Vitaliy Ivanovich; KISELEV, Vyacheslav Mikhaylovich;
KULIKOV Vladimir Vasil'yevich; MELESHKIN, Sergey Mikhaylovich;
SINARENKO, Aleksandr Ivanovich; KHIVRENKO, Akim Foteyevich;
SHKUTA, Eduard Ivanovich; SHOSTAK, Afonasiy Grigor'yevich;
MOSKAL'KOV, Yevgeniy Fedorovich, retsentent; SOSEDOV, Orest
Orestovich, retsentent; ROSSIT, Aleksandr Filippovich, otv.
red.; SUROVA, V.A., red.izd-va; LAVRENT'YEVA, L.G., tekhn. red.

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PLAKSIN, I.N.; KARMAZIN, V.I.; OLOFINSKIY, N.F.; NORKIN, V.V.;
KARAMZIN, V.V.; MAKARENKO, M.G., red.

[New trends in the concentration of disseminated iron ores]
Novye napravleniya glubokogo obogashcheniya tonkovkraplen-
nykh zheleznykh rud. Moskva, Izd-vo "Nauka," 1964. 202 p.
(MIRA 17:4)

KARMAZIN, V.I., prof. doktor tekhn. nauk; DENISENKO, A.I., inzh.; YUROV, P.P.,
inzh.

Industrial testing of the crushing without balls of lean magnetite
rocks. Gor.zhur. no.2:67-70 F '64. (MIRA 17:4)

1. Dnepropetrovskiy gornyy institut (for Karmazin, Denisenko).
2. Kamyshburunskiy kombinat (for Yurov).

KARMAZIN, V.I., doktor tekhn.nauk; MALETSKIY, N.A.

Improving the technology of the Krupp-Renn process for hard-to-concentrate Kerch peninsula ores. Met. i gornorud. prom. no. 2; 58-59 Mr-Ap '64. (MIRA 17;9)

KARMAZIN, V.I., prof.; KORIN', V.Ya., student

Centrifugal dry magnetic separation of weakly magnetic powder materials.
Izv.vys.ucheb.zav.;gor.zhur. 7 no.7:158-163 '64.

I. Dnepropetrovskiy ordena Trudovogo Krasnogo Znameni gornyy instituta
imeni Artyoma. Rekomendovana kafedroy obogashcheniya poleznykh is-
(MIRA 17:10)
kopayemkh.

KARMAZIN, V.I., prof., doktor tekhn. nauk

"Gravity concentration processes." Ур-11 39 no. 4/67 Je¹Q₄
(E1. n. 1/17)

1. Dnepropetrovskiy gornyy institut.

DENISENKO, A.I.; KARMAZIN, V.I.; SULTANOVICH, Ye.A.; MIGUTSKIY, L.R.;
KHVATOV, Yu.A.; BURAYEV, B.K.

Industrial testing of ore pebble crushing of Krivoy Rog Basin
quartzites. Gor. zhur. no.4:57-60 Ap '65. (MIRA 18:5)

1. Dnepropetrovskiy gornyy institut (for Denisenko, Karmazin,
Sultanovich). 2. Novo-Krivorozhskiy gornoobogatitel'nyy kom-
binat (for Migutskiy, Khvatov, Burayev).

KARMAZIN, V.I.; YEGOROV, V.L.; BIBESH, A.A.

Effect of preheating on the magnetic separation of rare
metal containing minerals. TSvet. met. 38 no.5:14 My '65.
(MIRA 18:6)

KARMAZIN, V.I., doktor tekhn. nauk; MALETSKIY, N.A.; TOVSTANOVSKIY, O.D.

Improvement in the magnetizing roasting of Kerch peninsula ores
in tubular rotary furnaces. Met. i gornorud. prom. no.4:64-64
Jl-Ag '64.
(MIRA 18:7)

KARMAZIN, V.I.; BERESH, A.A.

Effect of the speed of a deposition electrode on the separation of
materials. Tsvet. met. 37 no.10:17-19 O '64. (MIRA 18:7)

KARMAZIN, V.I.; BEBESH, A.A.; KARASEVA, V.N.

Effect of certain factors on the amount of electric charging of minerals
obtained in a corona discharge electric field. TSvet, met. 38 no.4:17-20
Ap '65.
(MIRA 18:5)

"APPROVED FOR RELEASE: 06/13/2000

CIA-RDP86-00513R000720810006-7

KARMAZIN, V. I.; BEEBISH, A. A.; DEGTYARENKO, A. V.; ISKUMENKO, V. M.

Electrostatic separation of fine grained materials at high speed operating conditions. Tsvet. mat. 33 no. 11: 98-99 N 165.
(MIRA 1651)

APPROVED FOR RELEASE: 06/13/2000

CIA-RDP86-00513R000720810006-7"

KARMAZIN, V.I., prof.; ROYZEN, I.D., inzh.; BINKEVICH, V.A., inzh.

Flow sheets of ore dressing plants in the Krivoy Rog iron ore and Nikopol' manganese basins. Gor. zhur. no.9:61-64 S 165. (SHK 18:9)

1. Dnepropetrovskiy gornyy institut (for Karmazin, Royzen).
2. Pridneprovskiy sovet narodnogo khozyaystva (for Binkevich).

KARMAZIN, V.I., doktor tekhn. nauk; ROZEN, I.D.

New method of beneficiating oxidized quartzites. Met. i
gornorud. prom. no.3:58-60 My-Je '65. (MIRA 18:11)

KARMAZIN, V.P.

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of therapy of silicosis with respiratory exercise. *Gig. sanit.*, Moskva
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1. Of the Institute of Labor Hygiene and Occupational Diseases of the
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KARMAZIN, V. P.

"APPROVED FOR RELEASE: 06/13/2000

CIA-RDP86-00513R000720810006-7

Dissertation: "The State of Pulmonary Respiration and Cardiac Activity in Silicosis
Patients in a Roentgenokymograph." Cand Med Sci, Acad Med Sci USSR, 26 May, 54
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DO: 86 284, 26 Nov 1954

APPROVED FOR RELEASE: 06/13/2000

CIA-RDP86-00513R000720810006-7"

MAKARENKO, I.I., kand. med. nauk; KARMAZIN, V.P., kand. med. nauk

Talc pneumoconiosis in workers of the dusty departments of the
"Kauchuk" Plant. Trudy 1-go MMI 28:107-113 '64.

1. Kafedra obshchey terapii i professional'nykh zabolеваний
(zav. - deystvitel'nyy chlen AMN SSSR prof. Ye.M. Tareyev) i
kafedra rentgenologii i radiologii (zav. - prof. L.D. Linden-
braten) 1-go Moskovskogo ordana Lenina imeni Sechenova. (MIRA 17:11)

ACCESSION NR: AP3014914

S/0207/63/000/005/0003/0010

AUTHORS: Karmazin, V. P. (Moscow); Stakhanov, I. P. (Moscow)

TITLE: Calculation of the volt-ampere characteristics of a thermoelectric converter at working diffusion conditions

SOURCE: Zhurnal prikl. mekhaniki i tekhn. fiziki, no. 5, 1963, 3-10

TOPIC TAGS: thermoelectric converter electrical characteristic, thermoelectric converter volt characteristic, thermoelectric converter diffusion condition, thermoelectric converter

ABSTRACT: A cesium thermionic converter with electron mean free path l_e much less than interelectrode spacing has been considered. The interelectrode gas is assumed to be weakly ionized at 2000K. The emitted electrons and the surface contact ionized cesium ions are assumed to have a Maxwellian distribution. The plasma electron gas is also assumed to have a different temperature T_e than the cathode, whereas the ion temperature is the same as the cathode surface. Expressions for the ion and electron currents at the cathode are obtained for both negative and positive electrode potentials, and the sheath structures are discussed for $\omega \geq$ where

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$$\beta_e = (I_{e0} / I_{i0}) \sqrt{M/m}$$

These are substituted into the three-component diffusion equations for ions and electrons where average values are used for ion and electron temperatures, transforming the differential equations to algebraic equations and solving them in successive approximations. The volt-ampere characteristics of the cell are then determined numerically for various plasma temperatures, cathode work functions, and values of ω . Orig. art. has: 33 equations, 7 figures, and 1 table.

ASSOCIATION: none

SUBMITTED: 26Apr63

DATE ACQ: 27Nov63

SUB CODE: PH

NO REF Sov: 002

ENCL: 00

OTHER: 001

Card 2/2

L 10611-65 3M(1)/EMO(k)/EPA(sp)-2/EPF(n)-2/EPA(w)-2/T/EMA Pu-4/Pb-6/Pah-2
IJP(c)/AFWL/ESD(ga)/ESD(t) AT

ACCESSION NR: APM045318

8/0043/04/028/009/1541/1544

AUTHOR: Karmanin, V.P.; Kasikov, I.I.; Stakhov, I.P.

5

TITLE: Effect of the cathode work function on the operation of a thermoelectric converter in the diffusion regime /Report, Tenth Conference on Cathode Electronics held in Kiev 11-18 Nov 1963/

SOURCE: AN SSSR. Izvestiya. Seriya Fizicheskaya, v.28, no.9, 1964, 1541-1544

TOPIC TAGS: thermoelectric converter, cesium vapor diode, work function, theoretical physics, diffusion theory

ABSTRACT: Numerical solutions of the heat conduction and diffusion equations were found for cesium vapor diodes under various conditions, and many of the results are presented graphically. Particular attention was given to the influence of the work function of the cathode. The solutions were effected by employing known or assumed values of the electron and ion temperatures in the diffusion equation to calculate the density and potential distributions, and employing the densities and potentials thus found in the heat conduction equation to calculate the temperature distributions. This process was started with the assumption of uniform temperatures and was

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L 10611-65
ACCESSION NR: AP4045318

continued until it converged. In order to calculate the effect of the cathode work function it is necessary to take into account the deviations from local thermodynamic equilibrium in the vicinity of the cathode (B. Ya. Moyses and T. Ye. Bikus, *Fiz. tverdogo tela* 2, 756, 1960). This was accomplished by assuming that the density in the neighborhood of the cathode is reduced from its equilibrium value by the factor $(1 - i/i_0)^{1/2}$, where in the case of overcompensation (i.e., when the cathode work function exceeds the chemical potential in the plasma) i_0 and i are the cathode emission current and the diode current, respectively, and in the case of undercompensation they are the ion emission current and the ion current. It was found that the current is independent of the work function under conditions of undercompensation, but that it decreases rapidly with increasing work function under conditions of overcompensation. The work function of the cathode in the cesium vapor can be estimated from the deviations of the performance of the converter from the predictions of the equilibrium theory. The cooling effect of the electron current on the cathode was calculated, and from that the efficiency of the converter. It was found that the heat taken from the cathode by the electrons is independent of the work function except under conditions of very strong overcompensation. "The authors are deeply grateful to the late Prof. I. I. Bondarenko for valuable discussions." Orig. art.has: 5 formulas and 6 figures.

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Hemodynamics of the pulmonary circulation in silicosis patients
based on data of angiopulmonography and catheterization of the
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TITLE: First boundary value problem for a polyharmonic function of p-th order in a sphere

SOURCE: AN UkrSSR. Dopovidi, no. 1, 1966, 27-32

TOPIC TAGS: boundary value problem, harmonic analysis, polynomial

ABSTRACT: The authors solve the problem of finding on a sphere (V) a polyharmonic function of order p satisfying the equation $\Delta^p U = 0$, and subjected to the boundary conditions

$$\Delta^i U|_{(S)} = f_i(Q), Q \in (S), i = 0, 1, 2, \dots, p-1.$$

The functions $f_i(Q)$ are assumed to be continuous and to have finite changes on an arbitrary arc of the great circle of the spherical surface. The problem is solved with the aid of spherical functions and a system of polynomials in terms of Legendre functions. The solution is obtained in the form

$$U(M) = \sum_{k=0}^{p-1} \sum_{m=0}^{\infty} \sum_{n=-m}^m A_{kmn} F_m^k(r^3) V_m^{(n)}(M) = \\ = \sum_{k=0}^{p-1} \sum_{m=0}^{\infty} \left(\frac{r}{R} \right)^m F_m^k(r^3) \iint_{(S)} f_k(\theta^*, \phi^*) \left[\sum_{n=-m}^m \frac{V_m^{(n)}(\theta^*, \phi^*) \cdot V_m^{(n)}(\theta^*, \phi^*)}{||V_m^{(n)}||^2} \right] d\theta^* d\phi^*$$

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